# *RM User*

*Vol 3*

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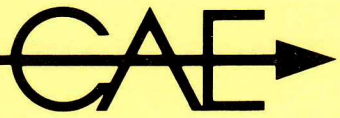
*The Journal of the RM User Group*



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# HELP-LINE

The User Group contains a great body of expertise amongst its members and the help-line exists to act as a channel for spreading knowledge and especially answers to your problems.

**Remember, your problems are also our problems!**

If you are in difficulty, please feel free to ring any of the following numbers. We may not, individually, know the answers, but we hope that we may know someone who knows someone who.....!

| | |
|---|---|
| **Robin Davies:** | 0902-310360 (home)<br>0902-305958 (work) |
| **Ken Maynard:** | 0438-354809 (home)<br>0438-352467 (work) |
| **Les Watson:** | 0452-741203 (home)<br>0242-513836 (work) |
| **Tim Davey-Winter** | 0865-244645 (home) |
| **Paul Maskens** | 0865-774407 |

Anybody else on the committee (see inside back cover) can be contacted if none of the above can help or is available. Remember, the Group is on **TELECOM GOLD**

**72:MAG 90380**

Do feel free to write either to the Editor or the Secretary. This may be especially useful if the problem is complicated and non-urgent.

# Advertising in the Journal

Full- and half-page advertisements can be placed in the Journal and the rates can be obtained from the Advertising Manager (address on Committee Page at back. We also take classified adds and members may place free adds for surplus kit in Micro-Mart.

## The deadline for the next issue is March 1st 1989


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# Editorial

In the latest issue of the nearly monthly RM Update - issued by RM and arriving after BETT! - there is an interesting list of RM's education prices for Microsoft programs. I have to say that they are very good and very competitive prices. I have also noticed that in RM's latest education product catalogue, the price for Micrografx Designer has dropped to a very healthy £299 - this for the latest version. However, it's worth noting that a new version of Designer is due for release in February. Micrografx have sent me a demonstration version of Designer to play with, along with Graph Plus.

RM have received "a lot of phone calls" about the inept omission from both the catalogue and installation notes that in order just to install Aldus PageMaker 3 and Excel on thePC-186, you need IBM Mode software. Not only that, if you try to install Excel without version 1.4 of IBM Mode software, Excel will tell you that there isn't enough capacity on your winchester - even if it is empty! However, don't panic, you can just copy the Excel files over by hand. You don't, of course, need the IBMemulator to run either PageMaker 3 or Excel - just Windows 2.

Peter Bishop must being doing really well, or else RM are selling gold disks. He ordered 3 boxes of Maxell 5.25" disks from RM and received an invoice for £2,901.45 for the privilege! There are, we learn, some problems with RM's latest stock control / ordering / admin software system. I am also told that if you can find your Customer Number of a previous invoice and prominently write it on your order, this will speed things up by a week. Who'd believe it!

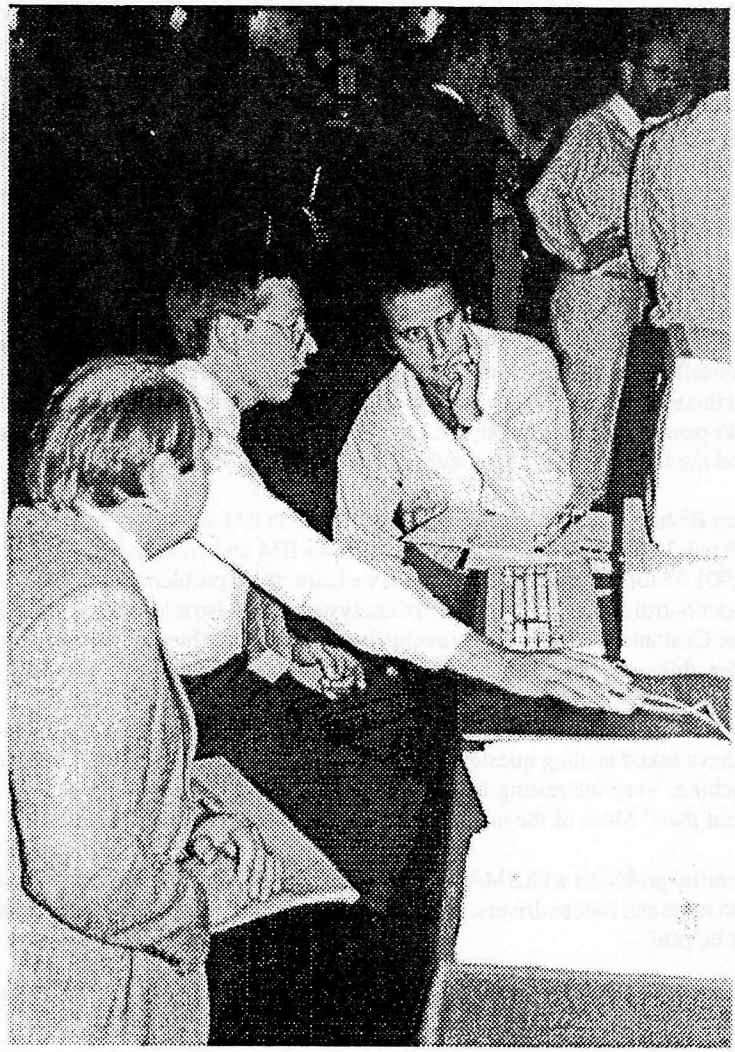
Nothing new from RM at BETT. Are we waiting for Which Computer? Some of us have asked leading questions to both RM staff and advisers about RM's new machine. Very interesting reactions! Mostly shocked faces and "who told you about that!" More of the machines RM won't be making on later pages.

Dreadful problems with SMARTDRIVE.SYS on AX machines I learn. Problems with mice and mouse drivers. Niggling incompatibilities with IBM standards are not helpful.

Don't forget the AGM on March 18th. Details are coming next month and we hope you will all come.

Amongst a number of lamented departures from RM of long-serving and valued staff, many old Group members will be sorry to see the retirement of Eve Rowley who ran Order Processing. For many years she was a key link at RM for the User Group and some of us will miss her. All the best, Eve.

A very late Happy New Year!



*Mmm .. I know what Colin Watkins said, but it doesn't seem right to me!*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# Letters

Dear Mr Davies,

I welcomed the interest in CAAD in the October issue, "Serious Painting on Nimbus?". However, there are a couple of points I would like to add.

Firstly there is at least one more paint system of this ilk, namely "PINXIT", comparable in complexity and function with both PC Paintbrush and DrawMouse, but with an emphasis on computer graphics for graphic design, and which has been around for some two years plus.

Secondly on the question of framegrabbing. Framegrabbing is and has been available for some time on the 186. Not only does my own program (Pinxit) support framegrabbing as standard, but bespoke software has been available (at low cost, for the software alone, for under £200 max) for PC Paintbrush, and more recently for DrawMouse, PaintSpa and Art and Time.

My experience (in the past) of the problems of framegrabbing on the 186 for Art and Design in colleges and schools is not one of its existence, but, one of the cost of the additional hardware. Although this was not terribly expensive; of the order of £500 to £900, for expansion board, camera and lighting.

Details of the current situation and prices on framegrabbing for the 186 can be obtained from Simon Hayes, RGB Computer Graphics Ltd, 27 Warple Way, London W3 0RQ, Tel 01-740-8333, and or Chris Jennings (RML).

Details of Pinxit are also from RGB Computer Graphics Ltd.

Yours sincerely,
Shaun Wilkinson
Faculty of Design

London College ofPrinting

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# Some Thoughts on Patrick Hogan's RM-BASIC 'ECHO' article

*(Newletter No 4 - Winter 1988.)*

I cannot agree with the fundamental premise of Mr Hogan's article which states that *"converting all the PRINT and INPUT statements in an RM BASIC program to PRINT#2 is by no means simple"*. Two properties of all RM BASICs, 8 & 16 bit, make it particularly easy.

Firstly, programs are stored on disk in ordinary text format and secondly, channel 0 is regarded as the keyboard for input and the screen for output.

A BASIC program, once stored on disk, can be edited with any word processor. MS WORD, for example, even has the facility to select just whole words and also to pick out only upper case, features which can usefully be employed to make the necessary alterations. It is even possible to skip occurrences of the selected word that do not have to be changed. It takes only a matter of seconds to scan even quite a long program and to make the necessary changes.

However, by far the best way of tackling the problem is not to let it arise in the first place.

Wherever a PRINT statement occurs that may later need to be directed to the printer instead of the screen, 'PRINT#Z' should be used instead, with the line 'Z=0' included at the head of the program. When the time comes to switch output to the printer it is only necessary to change the single statement Z=0 to Z=2. If output is wanted to disk instead then it is no more difficult to change it to Z=11 provided lines like:

**IF Z=11 THEN INPUT "Filename for saving data: ",Fname$**
and

**IF Z>0 THEN CLOZE#Z**

are also included. It is equally easy to build in the ability to accept input from the keyboard while a program is under development and, by changing one line, to get future data from disk. This feature can often make simple programs much more versatile, for example, by giving the user the option of sending the output to screen, printer or disk.

Ken Maynard

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# STAR PRINTERS AND THE PARALLEL PORT

We recently installed a Star LC24-10 as our network printer, connected to the server via a Parallel Piconet. It worked so well that we decided to buy another similar printer for the School Secretary to use on her stand-alone Nimbus, in place of an ageing Canon printer.

This one did not work so well. In fact, when we tried to print from WORD, the computer hung up completely after a few hundred characters, and not even CTRL/ALT/DEL would restore it. *

After various tests and tribulations, there emerged lots of red herrings and a few facts. I won't bore you with the red herrings, but one incontrovertible fact remained: the failures only occurred with the combination of the Star printer and the parallel port. The Star worked well on a BBC or on a Piconet, and a Canon printer worked equally well on the parallel port. (And all are supposed to be Centronics compatible.)

At this point we consulted RM's Technical Support. After some initial defensive reminders that RM's parallel port only emulates the BBC printer port, which in turn is only a partial emulation of a full Centronics interface, they got down to business.

At the end of a long catechism, the key question was put: "You are, of course, using the latest version of the parallel port software, Version 1.0 G, aren't you ?".

We weren't. Version 1.0 E had worked for years with Epson, Canon and other printers. So we obtained the up-grade, installed it, and since then everything has been fine.

So if you plan to move to a 24-pin printer, connected to a parallel port (as recommended by RM), make sure that your PARALLEL.SYS is the latest version, dated 21-01-88. If not, send a blank formatted disk to Tech. Support for an up-grade.

* Why don't RM provide a reset button ? I have fitted one to my own Nimbus and to those of several colleagues, and it has saved many disasters when keyboards have crashed.

SORTING OUT QWEST

A colleague with a 512 K Nimbus needed a descending sort, and QUEST-16 couldn't provide this. So I persuaded him to spend a fortune on a 1 Mb up-grade, so that he could use Windows and hence QWEST.

Unfortunately, the descending sort in QWEST doesn't work properly. Well, sometimes it does, and sometimes it doesn't. The Advisory Unit are looking into this, but they confess that they plan to re-write the sort routines in QWEST. Watch this space. (*Bug now fixed by AUCBE*)

3. 24-PIN SCREEN DUMPS

Does anyone know of a good screen dump which will use all 24 pins of a modern printer ? A modern version of Centec's PRNDUMP.EXE, in fact. It seems a shame to have a 24-pin printer with only 8 pins active.

ITEM (of ILECC) say that they have opened a job to provide such a utility, but that it has no priority at present. Pity !

Jake Loddington

Queen Elizabeth's Grammar School, Blackburn

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Science Education Software

Dear Sirs 9th December 1988

**Aliphatic/Aromatic Reactions**
**for use on RM Nimbus Network**

Please find enclosed a copy of a letter that I wrote recently to the RM User Group for inclusion in their Journal.

Had I received the above packages I would have had another sin to catalogue.

The batch file RUN.BAT provided copies data files to a silicon disk called E:. Which is fine if you are working on a station with a floppy drive. However, if you are at a diskless station the silicon disc is called C:

As far as I know, there is no simple way of detecting the presence of a drive from a batch file and so it is not possible for me to write a branching batch file to deal with different situations ( and why should I, Having paid extra for a so-called networkable package?). I have not had any success in renaming a drive for much the same reasons.

I also notice that your release note recommends the use of a stand-alone printer which to my mind defeats the object of having a shared resource network. If the big-guns of the software business can write software that works at an acceptable speed, why can't you? My users are trained to work within the network situation and seem to cope alright.

I should be grateful if you would take note of the points I have made in my letter to the RMUG and hope you can come up with some solutions to the problems outlined. As a network manager I am becoming more and more annoyed by software suppliers who do not provide a package that I can copy tidily into the Public directory, with a suitable batch file that runs first time. Try looking at the way Software Production Associates present their products.

Yours,

AP Bailey
EXMOUTH COMMUNITY COLLEGE
Gipsy Lane
EXMOUTH
EX8 3AF

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EXMOUTH COMMUNITY COLLEGE
Gipsy Lane
EXMOUTH
EX8 3AF

Dear Robin,

BBCBASIC Packages

At last we've got BBCBasic! I can start offering a service to all those disgruntled Beeb users a service on the school network. Alas, the euphoria of 18 months ago is turning to disillusion.

After a brief play to satisfy myself that it was possible to transfer packages and get them working without too much tinkering I soon discovered that there were difficulties.

Although most of the programs I transfered worked (up to a point) I felt that they would need modification to perform satisfactorily over the network and the style of programming adopted by most BBC programmers made it far too time consuming a task. I decided that software writers would need to do this job for themselves. This is where the problems arise because the programmers haven't.

I have purchased packages from Garland, AVP, COIC (or Bob Gledhill) and Science Education Software amongst others and their software exhibits a number of common failings. It looks to me as if they have simply copied the stand alone version for a BBC , made the minimum changes necessary to get the program to run and, for the privilege, some companies even impose a networking surcharge.

My complaints arise from my activities as Network Manager: the content of the packages is usually OK.

Typical problems are

Irrelevant questions: usually to do with printers, have you got one? is it on line? etc. These serve to confuse most of my users because printer setup is invisible to them . I have also found that the wrong *FX for our network printer (usually a simple, serial Epson) is buried in a 101 different places throughout the various component files and the printouts that do arrive at the spool printer are without the benefit of linefeeds.

Drive names: If files are created packages refer to drive 0 or 1 instead of the usual N: or path.

Protection: some companies have gone absolutely overboard on copy protection so that I cannot make the alterations necessary to improve network performance. Its a pity that haven't put the same amount of effort into producing a truly professional product.

Package location: my biggest beef is that to get these programs to run at all I have to have multiple copies of BBCBasic, one for each package. I know BBCBasic places restrictions on where files are kept but I feel that software providers have no understanding of the concept of the public directory. My solution would be to have a main menu or calling program in with BBCbasic and the bulk of the package in a sub directory. At the moment I have over a megabyte of valuable storage clogged up with endless copies of BBCLOAD.EXE and BBCBASIC.EXE

I have written to all but one of the software producers named, and I will be writing again, but I haven't received any satisfactory answers. I get the impression that they don't understand the problem and , of course, "nobody else has complained".

What do other RMUG readers think? Have I got the wrong end of the stick (again)? Or should we all be banging the table.

Bill Bailey

**Editor's Comment:**

*Science Education Software sent me a copy of their reply to Mr Bailey - which was too long print, but I print next their letter to me on the matter. What do readers think about all this? Please do respond. Constructive criticism is generally welcomed by software developers, but they receive very little.*

*See elsewhere for a solution to the BBCBASIC problem.*

Dear Robin,

I have recently received a letter from Mr A P Bailey, enclosing a copy of his letter to you. As we are one of the companies mentioned, I feel that we ought to put our side of the case - especially as we are members of the User Group!. I have therefore enclosed a copy of my reply to Mr Bailey for your information. I realise that the letter may be too long to print in its entirety, but basically the problem boils down to how much schools are prepared to pay for customised software.

Mr Bailey seems to want software specifically set up to run on his particular system, forgetting that other users may not run their networks in the same way. His printer setup may be invisible to his users, but is everyone's? I don't think we're guilty of most of his crimes: our data files are assigned to the correct drives and we do not copy protect our software.

However, if there is a simple, recommended solution to his complaint about multiple copies of BBCLOAD.EXE and BBCBASIC.EXE, we will be happy to implement it. We do, however, have to bear in mind that it must suit everyone's network, not just Mr Bailey's.

We would be grateful for any comments you or other user group members may have on these problems as listening to teachers who actually use our programs is the only way we can improve our service to the customer. However, it must be borne in mind that you get the service you pay for and you can't have cheap software and unlimited backup and personal customisation.

Yours sincerely,

Margaret Hall
Managing Director.

12 Lowther Square,
Beaconhill Grange,
Cramlington,
Northumberland.
NE23 8ES

Dear Robin,
The following is the batch file I have used to load BBC Basic programs without having BBCLOAD and BBCBASIC in many directories.

BBC Basic - how to avoid multiple copies on your network!

```
echo off
cls
echo —— Loading Fads ——
path p:\bbcbasic;%dp%
append p:\fads;%da%
p:\bbcbasic\bbcload p:fadinit
cls
echo —— Returning to operating system
append %da%
path %dp%
```

The crucial lines seem to be the path and append statements.

Path tells MS-DOS to look for .EXE, .COM and .BAT files in the directories listed, as well as the current directory. The %dp% is the default path set when you log on to the network. For a normal user this will probably be P:\and N:\although if the user has connections to other drives then they will also be included.

Append tells MS-DOS to search for data files in the directories listed. This means that a program which tries to open a file to read some data (or an overlay) will first look in the current directory and then in the lsit of appended directories. Again, %da% is the default appended directories and for most users is set to be empty.

Note that BBC Basic is loaded by giving its full path specification; this stops the BBCLOAD.BAT from being loaded (which contains its own path and append statements and will mess up ours!)

When the program finishes, the path and append statements are used to restore the defaults.

There seems to be a bug in append. If %da% is null (and it normally is) then the appended directory should be set to nothing. In fact it is left as it was before. This

shouldn't cause a problem: it just shouldn't happen.

Some programs expect to be able to find files in the current directory and won't work with an append statement. In this case add:

cd p:\directory name

after the append statement at the beginning and

cd p:\

before the append statement at the end.

I have tried this technique successfully with a number of programs. I hope it is of help to other members.

Stephen Rochford

---

## *For those in the know . . . .*

## March 30th is the day!

# Wagons West

*A review by Juliette Date*

## Background

The computer program was used with five forms of First Years at Lampton School as part of their Humanities course. The course is taught in half-termly modules, one of which is 'The American West'. The program was later also used with a group of teachers at the school as part of a staff In Service Training Workshop.

The pupils had a double lesson of 1 hour and 10 minutes with the computer, but due to some teething problems, some forms needed two double lessons to reach the end of the program. The pupils worked in groups of five or six, and took turns in using the computer, recording the information, and observing or discussing what action they should take.

## Preparation

The pupils were prepared beforehand by examining contemporary pictures and extracts from diaries. Unfortunately, the school did not receive the pack until just before the Humanities teachers planned to use the program, so we were not able to use the printed materials in the preparation. In retrospect, the information sheets would have been useful, but we were able to make use of them in the follow-up activities. The language used in the Information sheets is rather complex for 11 to 12 year olds, so that only the more able were able to tackle the whole text. However, the illustrations were very helpful and aided the less able.

## Using the Program

Before the pupils used the computers, the teachers insisted that they record the information about their group and decide what they needed to buy in Independence. This helped them to get through the Fitting Out section quite quickly.

Some pupils, and indeed staff at the INSET session, were a little confused by the 'Filename' which came up on the screen at the start and were unsure as to what they should type in. Some explanation would have been useful at this point.

The Nimbus version did not have a menu (unlike the BBC version). As a result, when some pupils made a mistake, pressed the wrong key and lost the program, they had to go right back to the beginning and go through the whole fitting out process again before starting out on the journey. The BBC version with its menu,

did allow them to pick up their journey again at the beginning of the stage (of the journey) where they had been when they had made the mistake. If an amendment could be made to the Nimbus program to include a menu, it would save pupils a frustating time.

Several pupils and teachers commented that the program allowed too much time on one frame. People had more than enough time to read the information on the screen and some got rather bored waiting for the next picture to appear on the screen. On the other hand, some staff at the INSET session complained that they did not have enough time to read the 'no deal' message of the man selling oxen in the Fitting Out section. The sentence flashed off too quickly for them to be able to read it.

There were also comments that the writing on the blue background was particularly hard to read. If the writing was on a different coloured background, it would be easier to read.

Once the pupils had started out on 'their journey', they became very involved in the program. There was a lot of discussion about the options open to them. There was also competition to see which group would be the first to reach California! However, there was a comment about the information given at the end of each stage of the journey. The computer gave information about the amount of money and the numbers of food units, carts and oxen left, but not about the number of people. It would have been useful to know how many of the original travellers reached California. The program was a good tool for making the pupils feel empathy with the settlers.

**Follow up**

After the pupils had used the computer program, they used their journey record sheets and the Information sheets to help them either to write a diary describing their adventures or to make up a board game based on their experiences. The quality of both the diaries and board games was very high and showed that the pupils had learnt much from the program.

**Conclusion**

On the whole, both staff and pupils were very impressed by the program. It was both fun and a good educational tool. The pupils were certainly very motivated by the program and were very involved in it. Despite the reservation about the presentation (blue background on the screen, lack of a menu, slow speed at which the pictures on the screen changed), we would highly recommend the program.

*(Wagons West is available from Tressell Publication on 0273-600186)*

# The AGM, the Constitution and You

*Peter Bishop, Chairman*

The Annual General Meeting this year takes place on Saturday 18th March at Newmann College, Birmingham. I hope to see you there.

One of the duties of the AGM is to elect the Committee for the next year. This is done in accordance with the Constitution of the User Group, which is reproduced in this issue of RM User for your reference. There is a particular reason for doing this, as one of the clauses in the Constitution affects the election of the next Committee.

Clause 3 of the constitution (Executive), lists the office bearers of the Committee: Chairperson, Secretary, Treasurer, Membership Secretary, Librarian and Journal Editor. There are four other members and any number of co-opted members. The clause goes on to stipulate that, 'with the exception of co-opted members, no member shall serve on the executive for more than five years in any continuous period of seven years'.

This affects the forthcoming elections, in that two Committee members, Graham Townsend (Treasurer) and Les Watson, are not eligible for re-election. It is possible to co-opt them for further service, but they are not able to hold any of the offices.

This is where you, the Members, come in:

* If you would like to nominate someone to be on the committee (or to volunteer yourself - someone can easily be found to nominate you), *please* do so. You can send your nomination, by telephone or in writing, to any committee member at any time between now and the AGM, or you can make your nomination at the AGM when the elections are held. There will be nomination forms at the meeting to fill in if you do not wish to speak out when the time comes. If you would like to find out what is involved in being on the Committee, please ask any of the present Committee.

* If you do not think that the constitution, as it stands, is fair, you can propose that we change it. As set out in the last Clause of the Constitution, the procedure for this is a little more formal - the change which you wish to make must be received, in writing, by the Secretary, Tim Davey-Winter, at least two weeks before the AGM, ie by Saturday 4th March. You will then have the opportunity to propose your change at the start

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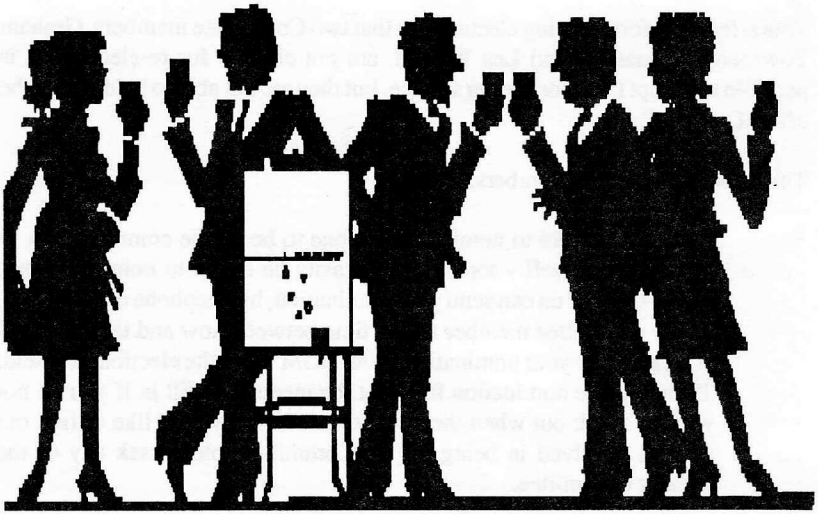
of the AGM. After a debate, a vote will be taken. If the Constitution is changed, the revised version comes into force immediately.

The task of the Committee is to serve the interests of the Members. This can only be done if we know what these interests are - now is an opportunity for you to make them known. Please don't let us down.



# Research Machines National User Group

## Constitution

### Objectives

The objectives of the Group are to promote the interchange of information and ideas between users of microcomputers manufactured and marketed by Research Machines Ltd., to encourage the formation of regional and other specialist groups of users of the above-mentioned microcomputers and to represent the views of users to Research Machines Limited. To this end, the elected Executive Committee shall, if possible, be representative of a cross-section of Research Machines Users.

### Membership

Membership of the Group shall be open to Institutions and individuals who are actual or intended users of Research Machines Ltd computers. An annual membership fee will be charged. This fee will be determined at the Annual General Meeting.

### Executive

The Executive shall consist of a Chairperson, Secretary, Treasurer, Membership Secretary, Librarian, Editor of journals and four other members. It shall have the power to co-opt other members as necessary. The Editor shall be the only member of the Executive to receive any remuneration and this remuneration shall be decided at the Annual Meeting. Elections shall be held for all posts on the Executive at the Annual Meeting. With the exception of co-opted members, no member shall serve on the Executive for more than five years in any one continuous period of seven years. The Executive may invite Research Machines Ltd to nominate representatives to attend its meetings.

### Activities

The Executive will handle the day-to-day business of the Group and shall be elected at an Annual Meeting to be arranged in the Spring of each year. The Executive will be responsible for arranging such other meetings within the year as it thinks fit, provided that there shall be at least two meetings each year other than the Annual Meeting.

### Publications

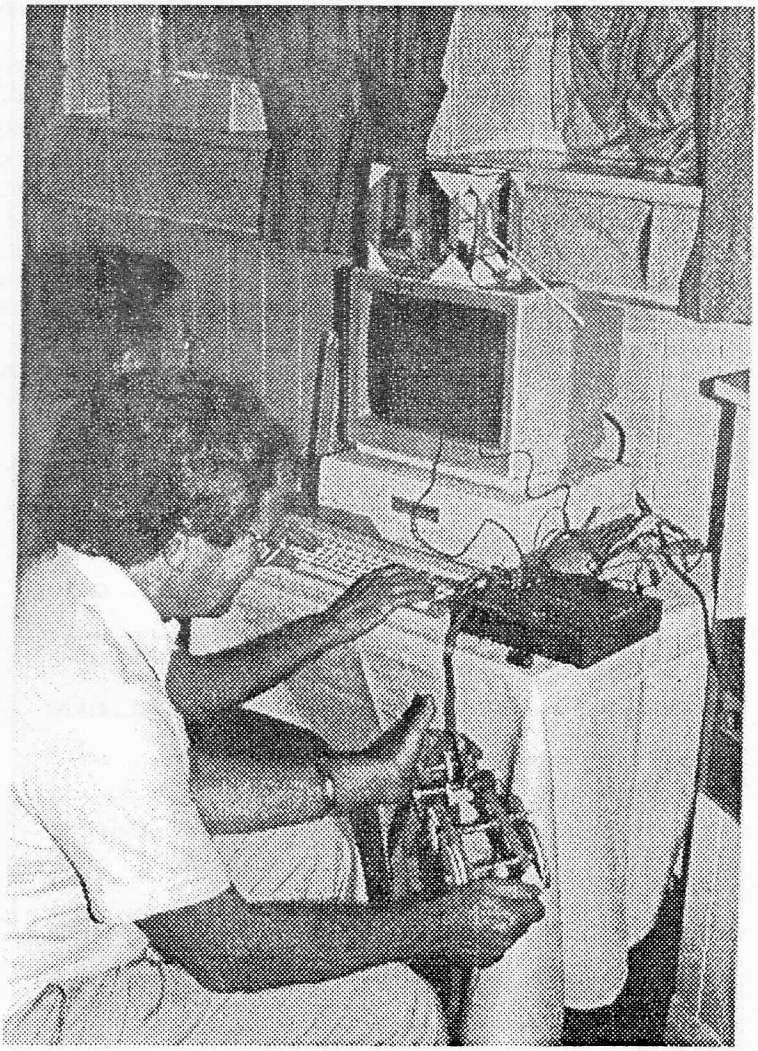
The Secretary shall be responsible for the publication of a broadsheet from time

to time. This shall contain information on the activities of the Group and such other items as the Executive deems fit. The Executive may publish such other journals from time to time as it deems fit, the Editor having responsibility for the content, production and publication of these.

**Changes to the Constitution**

Changes to the Constitution shall be agreed by simple majority vote only at the Annual General Meeting, or at an Extraordinary General Meeting. An Extraordinary General Meeting shall be called by the Executive only at the written request of at least twenty members. Proposals to change the constitution must be received in writing by the Secretary at least two weeks before an Annual or Extraordinary General Meeting.

Adopted March 12th 1983
Amended March 21st 1985



*Who said you can't control anything with a Nimbus?!*

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# Server News

The RM User Group server is now ready for booking.

It has already appeared at Rugby and Stoke and is soon to appear at Dundonald, Blackburn, Liverpool, Croydon, Guildford, Leicester and Teeside.

If you wish to book it for a meeting in your area, please contact Graham Townsend (telephone number inside rear cover).

We now have over 60 Mbytes of software from over 35 companies with more on the way. Who says that there is no software for the Nimbus?

We also have some LEGO demonstration models and hope to have a Teletext adapter in the near future. We have software for all subject areas but are expecting a lot more.

It would be particularly useful to have some Special Needs software as regular requests are made for such software. If you can recommend any, please let Graham know.

The software is set up as a batch file linked to company menus and an article on how all programs on a system can be linked to one logon ID will appear in the future.

The problems in setting up the system can be summarised as:

a) the restrictions imposed by the RM menu.

b) memory restrictions with large programs.

c) small number of programs allowed on each menu.

d) Software writers trying to write to the logged on drive i.e. drive p.

e) BBCBasic not allowing path changes within the menu
(We do not all want to have 50 copies of BBCBasic!)

f) Batch files from p:\with the same name ie start.bat etc. or installation programs trying to send new software to an already used directory particularly with BBCBasic.

g) Lack of information as to which files need to have read/write access.

h) Lack of a good Newsweep type package. The best seems to be XTREE, but it can only look at drives and not at directories on their own. This is alright on a small Winchester but it cannot cope with drive M (or C) on a 60 Megabyte server.

I am sure that a lot of us have come across similar problems and it would be interesting to learn about them or their solutions in future journals.

Companies with software on the server now include:

| | | | | |
|---|---|---|---|---|
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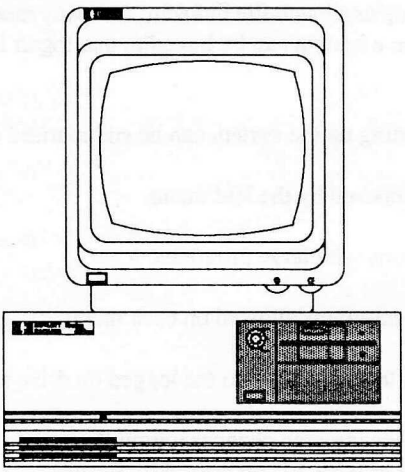

# SYSTEMS ANALYSIS for ALL - including Teachers

'Systems Analysis' is a phrase that has been linked for too long in schools with Computer Studies examination courses. It is actually an important concept for all and now needs reassessing as 'IT Across the Curriculum' grows in popularity. It is not just a job description for certain well-paid specialists but summarises a natural way to assess any task touched by computers in any subject.

The concepts that Systems Analysis is meant to demonstrate within the Computer Studies syllabus make it virtually impossible to teach. It requires pupils to foresee all the consequences of computerising some elaborate enterprise, such as a library, in terms of the hardware, software and even the personnel involved. More than any other aspect of computing, to carry out such a study and to recommend a detailed solution demands broad experience: the one commodity that pupils and most teachers do not possess. It is particularly difficult in establishments where the equipment has been bought with an eye only to CAL rather than to the world of work. We have also to apply Systems Analysis ourselves.

Hundreds of schools across the country are littered with inappropriate purchases. Teachers have been seduced into buying ZX80s for word processing, cassette machines for information retrieval and even BBC_Bs for the office. More recently the fashion has been to buy desktop publishing programs to drive cheap matrix printers and then to waste hours fiddling with poor pictures to illustrate ill-written text. There is also the trend to gear everything to MS_WINDOWS in order to allow several disparate programs to run simultaneously. This is fine for the expert but most people do not understand the basic qualities of more than a couple simple packages let alone the concept of data transfer. It is certainly not needed as a replacement for the MS_DOS interface since a menu system can manage that adequately, complete with file protection.

'IT for All' will cause a lot of heart-searching on the part of those advising on new systems. The technology requirements 'across the curriculum' are quite different from when computers are tucked away inside a single discipline. We must analyse the tasks to be done and plan for major changes in classroom practice. We can no longer use the excuse that any equipment will do because we are only trying to give an insight into the real thing. The real thing is here! We can actually use computers with the power and capacity of the Nimbus to do significant tasks. Isn't this what is meant by IT in the classroom?

Schools are moving towards 'IT Across the Curriculum' for two basic reasons. Firstly, our masters would have us believe, it may improve the efficiency of our teaching. Secondly, and without doubt, all our students need to become familiar with the things that computers can and cannot do. They will not get in-depth

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knowledge just from typing the odd essay into a computer, searching a database for information and displaying some data from a spreadsheet in graphical form. They must use computers many times and in many contexts to build up an overview of what the machinery can do, as well as to gain fluency in using it. They need to obtain this experience in order to answer such questions of 'why' and 'when' to use Information Technology, as well as simply 'how'. This level of Systems Analysis should be a natural part of all pupils' Information Technology education and should take place overtly alongside word processing, database handling and the use of other major tools.

In teaching terms this means that pupils need to use computers in relevant ways in the classroom and to have access to them whenever possible as a fundamental resource. It also means encouraging pupils to examine alternative ways of doing some tasks and evaluating the benefits of each. This is not as trivial a change as it may sound because it necessitates deliberately tackling many topics by more than one method, and that takes time. It also puts the accent onto analysing a problem rather than simply accepting teacher's one solution. It might be said to introduce an element of design into a wider variety of work where traditionally the emphasis has been on the craft of mastering only specific skills.

For example in Science, when finding the volumes and weights of several objects leading on to ideas of density, it should be natural also to type the information into some sort of file. A word processor might be used to provide a tidy list for pinning on the wall, and possibly also to re-arrange the results into a new, relevant order. A spreadsheet could provide rather more help, doing all the calculations needed and leading to some form of pictorial representation. A database management system, DBMS, could do something similar and might also hold the results of many previous years' experiments for comparison. With such resources available more significance can be given to obtaining a well thought-out final presentation.

Computers lend themselves to team work. In History, a document can easily be compiled from facts gleaned by different people and from a variety of sources by using a word processor. It can later be edited by the group and made available to every member that did the research. The exercise of proof-reading to remove repetition as well as grammatical errors can benefit all those involved. The final 'essay' can be a model of legibility and can become the property of everyone. All that is required is that both teacher and students realise and utilise the power of the equipment available.

To give our pupils a good grounding in Systems Analysis we need a firm grasp of the concept ourselves and that is not easy to acquire. Few of the teachers new to IT have experience of, for example, two or three different word processors, or of a variety of database management programs. Without this background it is

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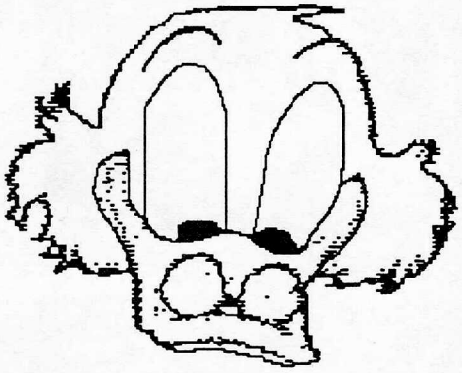
impossible to get the technology into perspective. Most of those that have only recently taken the plunge are happy to lead their students as far as they themselves have got but cannot be expected to see all the potential that is there. How can things be improved?

Teachers new to the technology should concentrate on a narrow front at first in order to build up confidence. It should be recognised that a great deal of experience is needed before qualitative judgements can be made. The person who has used a word processor for six months will have gleaned a great deal of understanding of computers in general in that time. It will not take long then to master a DBMS or spreadsheet package. When the teacher can regard the computer as a benign classroom aid he or she is in a position to help the pupils in an objective way. It is then possible to assess the task in hand and to determine a sensible way to proceed. That is, to apply Systems Analysis.

Ken Maynard



*The Editor hastens to point out that Ken Maynard doesn't look like this!*

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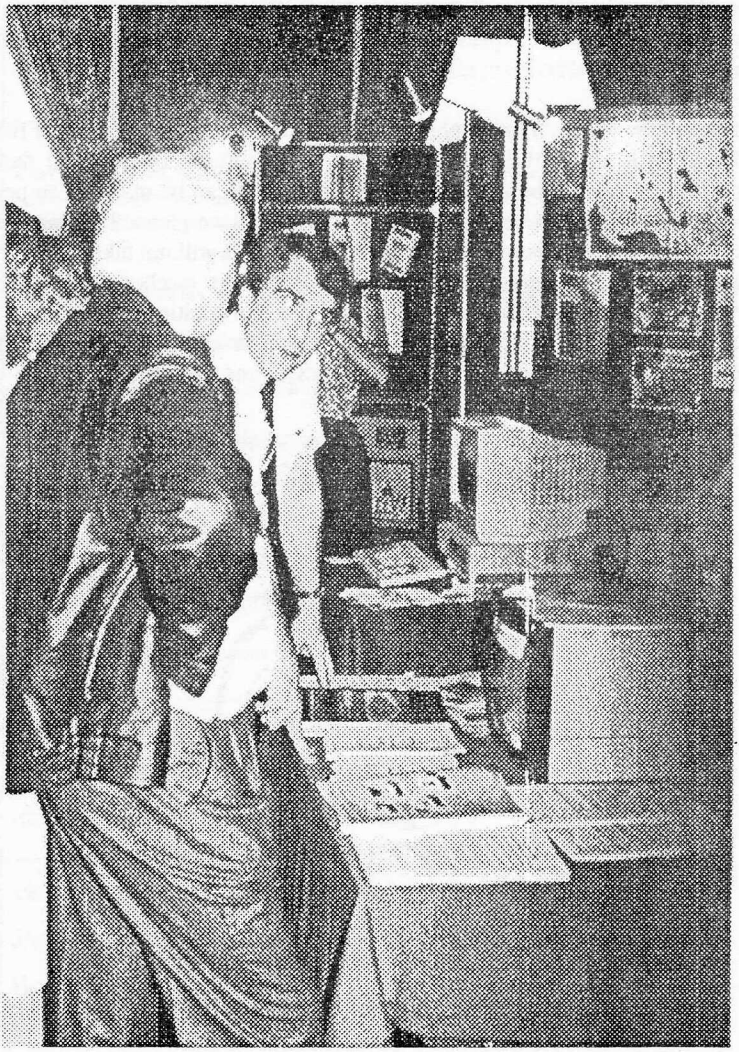

*Ah . ... it isn't supposed to do that.*


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# Adding extra Winchesters to the NIMBUS Network

*Paul Maskens*

Adding an extra winchester to a NIMBUS PC-186 RM Network 2 server is easy. Net 1 systems are a little harder to manage (they are probably all upgraded to Net 2 rev.B now - *if not, why not!*) and external winchesters aren't available for X series servers.

All you have to do is plug in the winchester to the external socket on the rear of the server (upgrades are available if you haven't got one), partition and format the winchester if you want to and the hardware is working.

The potentially hard part is getting the software working with the new winchester.

If all you want to use the external winchester for is storing users' data, then you can stop reading now. It's so easy, you can add users to the extra winchester by following the RM manual. Just create users and groups with NETMAN and make their connections to D:\GROUPZ instead of C:. It couldn't be easier, could it?

What's much more difficult is setting up an external 60MB winchester to store the operating system and software, leaving the users on drive C:.

The easiest to implement is to leave the user NETMGR (directory \MGR), \PUBLIC, \SPOOL and the server operating system (\NETWORK) on drive C:.

The only changes needed can be made using TREE COPY to move the users files, followed by NETMAN to connect the users to their moved directories on the new drive.

Moving all the operating system files and directories to another drive takes much more work, since a lot of files will have to be changed in order for network management to work properly. This is what will need to be done.

The server is booted using a server startup disk. This contains a CONFIG.SYS file which sets up the configuration of the server in terms of buffers, files, and drives available. Yours probably says:

```
lastdrive=Z
files=255
buffers=35
```

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The AUTOEXEC.BAT file on the server startup disk is responsible for starting the network loading.

Here is the AUTOEXEC.BAT file from the startup disk. All the lines which will need changing have been highlighted in bold text. The changes you make are underlined.

```
echo off
if $%DEBUG% == $on echo on
c:
cd \network
path c:\public
attrib -r *.*
set tempfile=
for %%f in (offers general.shr users.net netlink.com netgo.bat sysmess.txt)
do if not exist a:%%f set tempfile=%%f
if NOT $%tempfile% == $ goto mgr
copy a:\offers+a:\general.shr
for %%f in (users.net netlink.com netgo.bat sysmess.txt) do copy
a:\%%f
goto exit
:mgr
set tempfile=
for %%f in (offers general.shr users.net netlink.com netgo.bat
sysmess.txt) do if not exist c:\mgr\%%f set tempfile=%%f
if NOT $%tempfile% == $ goto error
copy c:\mgr\offers+c:\mgr\general.shr
for %%f in (users.net netlink.com netgo.bat sysmess.txt) do copy
c:\mgr\%%f
:exit
attrib +r *.*
netgo
:error
echo Error: %tempfile% does not exist in C:\MGR
set tempfile=
:end
attrib +r *.*
```

**Note:**

If you have moved the user NETMGR to drive D:, then each line containing C:\MGR will need to be changed to D:\MGR.
If you have moved the server software (directory \NETWORK) to drive D:, then the third line will have to be changed to D:.

If the \PUBLIC directory has been moved to drive D:, then the fifth line will have to be changed to D:\PUBLIC.

These are not all the changes! This batch file runs another batch file in the \NETWORK directory.

If you look in the batch file printed above, you will see the label :exit. After setting all the files that have been copied into the network directory to read-only, the batch file NETGO.BAT is run. Here it is.

```
net start server SERVER1 /N:50 /S:C:\SPOOL /NBUFS:80
```

Not much of a file is it? All it does is start the server going with a maximum of 50 sessions, sets the spool directory to C:\SPOOL and creates 80 network buffers.

If you have moved the SPOOL directory to another drive, change this batch file to tell the server where it is.

This is the file MSNET.INI, it is used be the NET command to determine what the parameters on the command line mean.

```
start redirector $1
start rdr $1
  chknet
  xport
  netbios
  minses
  prtsc
  redir /l:30 /s:2

start server $1
start srv $1
  chknet
  xport /BOOT:-1 /nbufs:80 /ncmds:72
  netbios
  minses
  setname $1
  share /f:10000/l:50
  psprint
  server /s:c:\spool /c:400 /o:200 /n:50 /i:c:\network\offers /f:250 /l:50

restart
restart server
  server /s:c:\spool /c:400 /o:200 /n:50 /i:c:\network\offers /f:250 /l:50
```

Each block of commands (indented by 3 characters from the short form command) is executed when the corresponding abbreviation is entered after NET. Like batch files, but controlled by the NET program so more than one command can be included in the same file.

Only the START SERVER <servername> or START SRV <servername> command is used by RM. If you intend to use NET RESTART to restart your server after a STOP command, make sure the appropriate changes are made to this file as well as to the other files above.

Just for information, the START REDIRECTOR or START RDR command is used on Microsoft Networks stations booting from floppy disk, it loads the network software ready for NET USE commands (see the \PUBLIC\MSNET.INI file for details).

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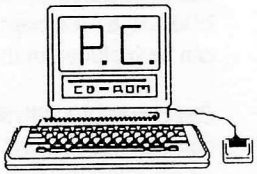


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# Nimbus Network 2 security loophole - check yours now

*Paul Maskens*

All Nimbus Networks are the same, at least initially. When a server is built at Research Machines, all the Network 2 software is copied onto the hard disk ready for immediate use. This means all you as a Network Manager have to do is unpack the computers, connect them together and switch them on.

All the user groups and disk connections are set up on the standard RM Network model. This means that although the shortnames and passwords normally concealed from the users and the manager are changed each time a user or group is edited, *some of them never change.*

Try logging onto the network as a member of GROUPC, USERC1 for example. Since you have access to MS-DOS at the N:\> prompt, you can now gain access to all of the server's hard disk.

Type **USE_M:_\\SERVER1\S0000201_P0000200<enter>**. This makes a connection on your drive M: to the server resource offered by SHARE as S0000201 using password P0000200.

If this works, there will be no messages on the screen, so next try

**DIR_M:_/w<enter>**

to look at the directory.

Try another standard offer.

Type:

**USE_Z:_\\SERVER1\S0000200_P0000199 <enter>.**

This makes a connection on your drive Z: to the server resource offered by SHARE as S0000200 using password P0000199.

If this works, there will be no messages on the screen, so next try **DIR_Z:_/w<enter>** to look at the directory.

Obviously the ability to look at the manager's directory and the root of the winchester drive should only be available to the manager, not anyone who can type in an MS-DOS command!

This means that from BBC BASIC, Windows and WORD you can run the USE command from a station *without seeing the N:\> prompt* your network is open to a hacker who knows these names and passwords.

I wouldn't have told you this if there wasn't a cure! Remember that if a connection is modified the shortname (e.g. S0000201) and password (e.g. P0000199) will be changed.

All you have to do is to log in as NETMGR, or stop the server and type **C:\MGR\MANAGE<enter>**. This takes you to the network manager's menu.

From the manager's menu, select **Edit User/Group/Public Options**.

This loads the NETMAN program which manages the connections to the network disk directories.

Select **Edit Group Details** and enter the group name **MGR**. Make a note of the connections used by this group, normally L: to A:\ and M: to C:\ when sent out by RM. Now delete them.

Return to the main menu, saving the changes.

Select **Edit User Details** and enter the user name **NETMGR**. Make a note of the connections used by the user NETMGR, normally only N: to C:\MGR. Now delete it.

Return to the main menu, saving the changes and then exit fro the program, again saving the changes.

Now re-enter the NETMAN program and follow the same route through the program, this time putting the connections BACK to the values used before. Since the NETMAN program generates random shortnames and passwords, the connections will be the same as far as the manager using the system is concerned BUT the commands above will no longer work.

Users cannot find out the new shortnames and passwords because the OFFERS and USERS.NET files are not available unless they have access to directories C:\NETWORK, C:\MGR or C:\. Since the only way to the files is to log in as NETMGR or stop the server, the disk is now secure.

**Only as secure as the passwords.**

Remember to keep the network manager's password secret. A good password should not be in a dictionary, nor anyone's name or nickname, nor a pet's name.

Try something unpronounceable like YGROKXUG.

The server will display the passwords on the screen as the server is booted up, during the execution of the SHARE commands in the OFFERS file.

Adding 24 blank lines to the end of the file GENERAL.SHR after the useful ones like SEP OFF will clear the server's screen on start-up. If the server's monitor is not normally turned on the there is no access to the passwords*except by deliberate resetting of the server with the monitor on, or by logging on as the Network Manager.*

*[Note to the Editor, please perforate around this article so it can be torn out and eaten after use!.]*

---

In PC Week a security loophole in the OS/2 Lan Manager server has been 'discovered'. Someone has realised that on a machine running concurrently as a server and a workstation, normal operating system commands can be entered at the keyboard into the workstation task which has access to the disk and can therefore alter the data being used by the non-dedicated server task. Surprise, surprise!
Obviously dedicated servers are required to give security, preferably with no keyboard or screen attached and securely locked in a cupboard out of harm's way.

# BACKING UP your winchester

*Paul Maskens*

Using the Microsoft BACKUP utility successfully is not as easy as the manuals suggest. I hope this will help you to backup and restore your networks without problems.

Firstly, as the RM network manager's guide tells you, BACKUP cannot be used while the network software is loaded into the computer used for the backup. Even if you use the STOP command at your server, this does **not** unload all the network software from the server's memory.

You must *always* reboot the server with an MS-DOS operating system loaded from a floppy disk in drive A: *before* using BACKUP or RESTORE.

If you try to use BACKUP from a station or at a server with network software loaded, you will eventually see the error message '*** Failed to backup file ***'.

BACKUP assumes that the target disks being used to store the backup files are completely empty. This is essential if you are using the /P option to pack as many files as possible onto a disk.

BACKUP warns you that it will erase all the files on the target disk when it asks you to insert the backup destination disk. It's lying.

BACKUP will not erase a volume label, subdirectories or read-only, system and hidden files.

This results in a failure as BACKUP asks MS-DOS how large the root directory is on the target disk. Then it writes files to the root directory until it thinks there is one entry left, creates a subdirectory and then writes all further files into that directory until the disk is filled.

The symptoms of this failure are that nothing happens. The backup run will stop scrolling filenames up the screen but will display no error message and can sit there for hours.

The backup option /P is *essential* if you are backing up large numbers of small files to 1.44 MB floppies on X series computers. Even on a PC-186 the /P option will pack more data on a disk if the amount of data in each file being backed-up up is small.

Backup of only part of your network is all that is strictly necessary. Look at the mountain of original disks that you have received from RM and the other software suppliers. These are your backups of the program and system area of the network.

The disadvantage of not making a full backup at least once is the week or so it will take you to reconstruct your network from the mass of separate disks. Don't forget you'll have to rewrite any menus you've changed and recreate all the user IDs and passwords as well.

You will probably only need to make regular backups of the data that you and your network's users add to the system. This includes the menus and batch files written to tailor the network, together with the \NETWORK and \MGR directories which hold the information necessary to reconstruct the user IDs in the case of a catastrophic failure.

For this, TREE COPY to 720K floppy disks is adequate provided you use TREE STATS to check the sizes of the files first.

If you are going to use floppy disks for backup, I would recommend buying a backup program more reliable than MS-DOS BACKUP and RESTORE. Even if you save money by going to one of the public domain software sources rather than buying a commercial package (I'll be looking at some public domain programs in the next few weeks).

Otherwise choose the system that meets your budget and any other requirements you may have for upgradeability and exchange of data with other systems.

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# N²GC - the Next Next Generation Computer

*by A.N.Other, the Midlands Mole*

A look at what the RM development engineering teams might not be beavering away at, even as you read this and why ...

With the price to education of an IBM PS/2 model 50 closely matching that of a NIMBUS AX/2 of similar configuration, there has to be something to differentiate the products, otherwise we'd never decide which to buy. For primaries and secondaries there is a clear choice. Further education has different needs and there the reasons for buying RM are less clear cut.

Let's look at some of the factors - decide for yourself who wins...

IBM have the magic 3 letter name and a high profile, *everyone* has heard of IBM. The PC standardised the market and passed into the language in the way Hoover became synonymous with vacuum cleaners.

IBM have a large presence in the French education market. When 1992 comes that may give them a springboard into other European education markets, allowing them to start ahead of RM.

Some people will say RM, who? Although RM advertising means that most people in education know their name, if not the details of the products. RM have a proven track record in education but not in business systems.

The RM X series computers have extra features over the IBM offerings. E.G. the X series will copy the EGA BIOS into RAM, speeding up operation; also parts of the BIOS ROM expansion space can be used as an EMS window.

In order to operate as an IBM compatible, particularly when adding hardcards or other storage media, the options which make the X series fast have to be disabled. This reduce the X series to a mere IBM.

RM have already established a large market share in education with the NIMBUS PC, this has generated some NIMBUS PC-specific software for education.

This NIMBUS specific software can only be run on a NIMBUS PC or NIMBUS X series in some cases, a minority is NIMBUS PC-186 specific.


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The availability of BBC BASIC is a major justification for BBC users who wish to switch over to NIMBUS PC systems, but it is not available with graphics and sound support on the X series, nor the IBM range.

The availability of BBC BASIC on the X series probably would not drastically reduce sales of NIMBUS PC-186 nor result in a corresponding increase the sales of X series computers.

If RM were to implement the MTEC/RM BBC BASIC for the X series in IBM mode, protection would be needed to prevent it appearing on OPUS, Amstrad and 'real' IBM computers as well. It's not likely that RM's competitors would copy their software, but they may well decide to implement their own if RM increase sales because of the availability of X series BBC BASIC.

Many new applications are now being developed for Microsoft standard environments (Windows and DOS) instead of using the non-standard but faster RM hardware and firmware (e.g. Oriel for Windows).

The trend for applications (Windows applications in particular) to eat memory leads to a requirement from users for more memory on their NIMBUS PC systems. Memory prices are high, chips are scarce, so many users are struggling on with 512K network stations instead of the 1.5Mb they really need to run Windows effectively on a network 2 workstation. *(Never mind the problems of using the bigger Windows 2 with a silicon disk on the 1.5Mb PC.)*

The more interesting and exciting applications such as communications servers for networks (FAX, X25, X400 etc) and CD-ROM systems require the processing and graphics performance of the newer generation of machines, as well as an IBM PC bus.

The RM Network has proved a cheap, reliable network system for education. With the addition of X series servers and more disk space (60MB plus) existing NIMBUS PC networks can be upgraded to last a few more years.

The place of AX stations on the RM Network is unclear. The cable has to be run at the slow speed if you wish to share the cable with PC stations. Not even sharing servers, PC stations can't cope with the 2Mbits/sec cable data rate that the X series can offer - they get confused about whether it's valid data at the higher speed.

If you want a real network, then you will probably buy NOVELL Netware from RM in the guise of *RM Netware* and use the RM Ethernet interface. Or wait for Presentation manager and Lan manager release.

You could buy someone else's network (3COM springs to mind) but then there's the problem of support. Bear in mind the comments about IBM compatibility above. Is it the network hardware or software at fault, or the computer? Of course each supplier may find no fault with their own product. Unless you have an expert available (they're expensive to keep) you are at the mercy of your supplier and their supported and/or recommended systems.

You can't buy an IBM to RM Network interface (ZNET hardware). Presumably there are licensing problems in adding IBM computers onto the RM licensed (and modified) Microsoft Networks operating system. It can't be a hardware problem because the X series are IBM compatible aren't they? (*Well, most of the time - Ed*) RM certainly have the expertise to offer that option if it becomes desirable/profitable. Of course the disadvantage is that it gives potential competitors an entry into RM's existing customer base.

Potentially, Amstrad could offer their network interfaces and software as a product to allow existing IBM and RM computers to connect to Amstrad networks. It does reduce their competitive advantage, but opens up their network to other hardware and may be necessary to sell Amstrad networks to users who have large numbers of other machines..

So, if IBM decide to take on the whole UK Education market (not just higher education), what to they have to do?

1) Produce a BBC BASIC implementation with all the features of the RM MTEC BBC BASIC (must have graphics and sound).

2) Produce a NIMBUS PC emulator - a product much like the RM SETPC IBMulator.

3) Produce a ZNET compatible network interface. Preferably without infringing RM copyright, although IBM could afford to out-sue RM if they had to.

4) Market the above and offer realistic prices with after sales support of the same standard as RM or better.

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IBM undoubtedly have the resources to do this. Presumably they don't want or need to sell to the Primary, Secondary *and* Further Education markets.

Amstrad are in a position to do the same. If they decide they want to enter the Education market in direct competition to RM, they will need to develop comparable products to allow and encourage users to migrate.

What about RM, can they rest on their laurels? Probably, yes.

Recent press talks about the launch of the *new* RM 25Mhz VX/25 systems at the Which? show. These are hardly a revolutionary product! Speed improvements up to 33MHz on the 286 and 386 processors have been promised by chip manufacturers. Also announced on the cover of MicroScope is the AX/20 with internal CD-ROM drive. Again a product announced a while ago and shown at the MUSE and RM User Group conferences.

But if RM were to produce new educational products...

A hardware NIMBUS emulation mode which allows BBC BASIC to run on the X series. Possibly graphics hardware specific applications like Nimbus Viewdata could also run. [Unlikely]

or

A "PC-186/2" workstation with complete NIMBUS PC compatibility and a subset of X series facilities at PC prices. [Possible]

From their leading position, RM don't *need* to introduce a new computer into the education market now. But what if they did?

Certainly a smaller footprint then the AX is desirable to fit the trolleys, desks and shelves bought with the PC-186 in mind. A smaller footprint than the PC-186 may be achievable.

Simply repacking the AX/2 into a smaller box, moving the drives to two side-by-side mounted above the BCU, fitting the processor card and IBM AT bus card slot (only one) *horizontally* in the computer would produce a small, powerful computer. But a new product is the aim, not just repacking an old successful one. Something new needs to be added to make it worthwhile.

However, the AX/2 seems a good starting point. Using the proven building blocks a PC-186 compatible product could now be developed.

A BCU with the clock, mouse, serial and parallel interfaces, floppy and winchester controllers, main memory and processor all on the one board. 80388 processor (oops, sorry, make that 386SX) or maybe 286. Multilayer and surface mount technologies should allow all this on a board the size of a NIMBUS PC BCU or even smaller. Only one IBM AT bus slot need be available to take the optional ZNET or Ethernet interface card. To save height this could fit horizontally provided good cooling air circulation is achieved by the fan.

NIMBUS mode PC-186 compatibility could be improved to give 'register' compatibility with the graphics gate array on the PC-186 as well as supporting the PC-186 subbios interface. Developers will always drive the hardware if they want maximum speed - it's the only way to make your product faster than anyone else's! (provided *they* stick to the rules).

Only three configurations need be offered:

a Diskless network station (ZNET or Ethernet)
b Single $3^1/_2$" disk drive
c $3^1/_2$" disk drive and 60MB winchester

Alternatively, take the current AX/2 product and squeeze it into a portable computer. COMPAQ have done it successfully with their SLT/286, GOUPIL with the GOLF *and* fitted in IBM bus slots. Whether RM want to enter the portable market is debatable, judging from the reviews of the COMPAQ machine there is certainly a market among reviewers for a few systems even if customers can't afford them.

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# RM Staffing

*by Millie Street-Mole*

Well now, with Peter Smith and Judy Robertson gone, the future for Education products is unclear.

Peter was very vocal in his support of products for education within RM. BASIC, LOGO, PASCAL and the RM implementation of DOMESDAY are all 'his' developments.

Judy looked after educational ISVs nearly single-handedly and added her support to development and support initiatives for education.

Who is going to champion the cause of education now?

Well, obviously Technical Support will be on the users' side. They have a great amount of influence over the course of development of products. With Jeremy Welch's temporary posting to the marketing department things should be OK in the short term, but what are the prospects for the long term?

# Micro Mart

**For Sale:**

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# Writing for the Journal

Please do! All contributions are welcomed and most are published, subject to editorial requirements.

Your contributions should be sent on disk from any RM machine and it may be helpful in some cases to include a printout of the article. All disks are eventually returned!

One of the greatest needs is for suitable illustrations, but these need to be disk files which can be transferred into *Aldus PageMaker*. *Windows Draw!* pictures are the best, but *PC Paintbrush* pictures are acceptable. If you want to send in graphics from such as PAINT*SPA* or NEW*SPA*PER, please print out with a new ribbon so that there is some chance of making camera-ready copy. Good black & white photos are great.

For those who would really like to help the Editor and are using a Nimbus and either *Microsoft Word* or *Windows Write!*, please format your text in 10 point Times Roman. When using *MS Word* you will need to select a postscript printer (Apple laser) from the Print Options menu. Do **not** use a style sheet (for various reasons!)

If you are using, say, *WordStar* on a 380Z or 480Z (*and why not*?) then do it as a non-document file. I cannot read BBC disks , but you may be able to email me on 72:MAG 90380. PageMaker 3 files on Mac disks can be read.

Don't be put off by any apparent technical depths in material you read in the Journal. We *eagerly* welcome simple, straightforward stuff from novices for novices. There is no minimum length, either!

If you've an idea, but are uncertain as to its usefulness, please drop me a line or ring me.

We are very keen on any material concerning BBCBASIC-86 and the running of BBC programs on the NIMBUS PC-186.

Articles/letters about your experiences with RM, their kit and service are welcome, as are the same about other vendors of hardware or software for the RM range.

**Deadline for the next Journal is March 4th 1989**

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## Membership Form

*(Please use capitals)*

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Cheques should be made payable to **RMUG** and sent to:

The Membership Secretary, RM User Group,
George Stephenson Community High School,
Southgate, Killingworth,
Newcastle.
NE12 0SA

**Signed** _____

1989


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# Executive Committee 1988/89

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| **Secretary** | Tim Davey-Winter | Oxford Polytechnic<br>**0865-244645** (Home) |
| **Treasurer** | Graham Townsend | 3, Loseberry Road,<br>Claygate,<br>Esher, Surrey.<br>**0372-66043** |
| **Membership Secretary** | Steve Rochford | George Stephenson High School,<br>Southgate, Killingworth,<br>Newcastle. NE12 0SA<br>**091-268-2002 (Work)** |
| **Software Librarian** | Sheila Maynard | 7, Wood Drive,<br>Stevenage, Herts.<br>SG2 8PA<br>**0438-354809** |
| **Editor** | Robin Davies | 13, Paget Road,<br>Wolverhampton. WV6 0DS<br>**0902-310360** (home)<br>**0902-305958** (work) |
| **Advertising** | Keith Ashby | Ashby Farms,<br>The Buss Barn<br>Fairfield Road, Appledore<br>Ashford, Kent. TN26 2DR<br>**023-383-378** |
| **Conference** | Les Watson | Tulip Cottage,<br>Church Corner,<br>Frampton-on-Severn, Glos<br>GL2 7EQ<br>**0452-741203** |

Ken Maynard Paul Maskins Roger Bracey


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OK ..... we admit it, the caption is a bit over the top, but hands up all of you who have had dealings with RML at Oxford. Well, those of you with your hands up will know what nice people they are. MSM knows what nice people they are because we have dealings with them every day. So, who is MSM? We are Micro Systems Maintenance Ltd., RML's authorised national service agents. Our staff have been associated with RML since their earliest days, and whilst modestly forbids us to say that we know them intimately, we will readily admit to being intimate with the insides of those clever machines that they make. If your 380Z, 480Z or Nimbus needs attention, we'll fix it for you, and we won't charge you the earth. If you are responsible for keeping networks up and running, talk to us about a maintenance contract; our quotation will pleasantly surprise your financial manager.

We are the only company authortized to do warranty work, and we also carry out upgrades and modifications, either on-site or at one of our regional service centres.

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